

## CLAIMS

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1. Structured composition containing at least one liquid fatty phase comprising at least one fluoro oil, the liquid fatty phase being structured with at least one polymer with a weight-average molecular mass of less than or equal to 1 000 000, comprising a) a polymer skeleton having hydrocarbon-based repeating units containing at least one hetero atom, and b) optionally at least one pendent fatty chain and/or at least one terminal fatty chain that are optionally functionalized, containing from 6 to 120 carbon atoms and being linked to these hydrocarbon-based units, the liquid fatty phase and the polymer forming a physiologically acceptable medium.

2. Composition according to Claim 1 or 2, characterized in that the average molar mass of the first polymer is less than or equal to 500 000 and better still less than or equal to 100 000.

3. Composition according to either of the preceding claims, characterized in that the hetero atom-containing units of the polymer comprise a nitrogen atom.

4. Composition according to one of the preceding claims, characterized in that the units containing a hetero atom are amide groups.

5. Composition according to one of the preceding claims, characterized in that the fatty

chains represent from 40% to 98% of the total number of units containing a hetero atom and of fatty chains.

6. Composition according to one of the preceding claims, characterized in that the fatty chains represent from 50% to 95% of the total number of units containing a hetero atom and of fatty chains.

7. Composition according to one of the preceding claims, characterized in that the pendent fatty chains are linked directly to at least one of the said hetero atoms.

8. Structured composition containing at least one liquid fatty phase comprising at least one fluoro oil, the liquid fatty phase being structured with at least one polyamide with a weight-average molecular mass of less than or equal to 1 000 000, comprising a) a polymer skeleton containing amide repeating units and b) optionally at least one pendent fatty chain and/or at least one terminal fatty chain that are optionally functionalized, containing from 6 to 120 carbon atoms and being linked to these amide units, the liquid fatty phase and the polyamide forming a physiologically acceptable medium.

9. Composition according to Claim 8, characterized in that the average molar mass of the polymer is less than or equal to 500 000 and better still less than or equal to 100 000.

10. Composition according to the preceding claim, characterized in that the fatty chains represent

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from 40% to 98% of the total number of amide units and of fatty chains.

11. Composition according to one of Claims 8 to 10, characterized in that the fatty chains represent from 50% to 95% of the total number of amide units and of fatty chains.

12. Composition according to one of Claims 8 to 11, characterized in that the pendent fatty chains are linked directly to at least one of the nitrogen atoms of the amide units.

13. Composition according to one of the preceding claims, characterized in that the weight-average molar mass ranges from 1 000 to 30 000 and better still from 2 000 to 10 000.

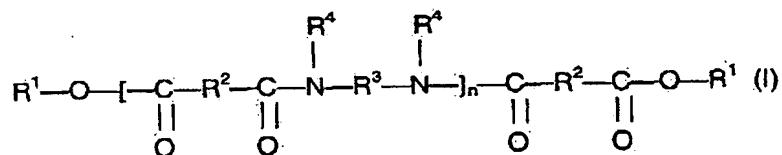
14. Composition according to one of the preceding claims, characterized in that the terminal fatty chains are linked to the skeleton via bonding groups.

15. Composition according to Claim 14, characterized in that the bonding groups are ester groups.

16. Composition according to one of the preceding claims, characterized in that the fatty chains contain from 12 to 68 carbon atoms.

17. Composition according to one of the preceding claims, characterized in that the polymer is chosen from the polymers of formula (I) below, and mixtures thereof:

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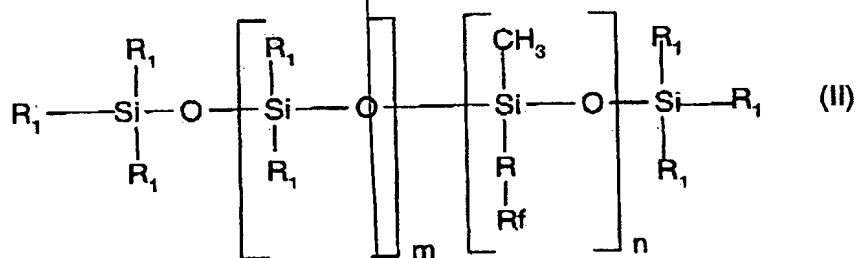
in which n denotes a number of amide units such that  
 5 the number of ester groups represents from 10% to 50%  
 of the total number of ester and amide groups; R<sup>1</sup> is,  
 independently in each case, an alkyl or alkenyl group  
 containing at least 4 carbon atoms; R<sup>2</sup> represents,  
 independently in each case, a C<sub>4</sub> to C<sub>42</sub> hydrocarbon-  
 10 based group, on condition that 50% of the groups R<sup>2</sup>  
 represent a C<sub>30</sub> to C<sub>42</sub> hydrocarbon-based group; R<sup>3</sup>  
 represents, independently in each case, an organic  
 group containing at least 2 carbon atoms, hydrogen  
 atoms and optionally one or more oxygen or nitrogen  
 15 atoms; and R<sup>4</sup> represents, independently in each case, a  
 hydrogen atom, a C<sub>1</sub> to C<sub>10</sub> alkyl group or a direct bond  
 to R<sup>3</sup> or to another R<sup>4</sup>, such that the nitrogen atom to  
 which R<sup>3</sup> and R<sup>4</sup> are both attached forms part of a  
 heterocyclic structure defined by R<sup>4</sup>-N-R<sup>3</sup>, with at least  
 20 50% of the groups R<sup>4</sup> representing a hydrogen atom.

18. Composition according to the preceding  
 claim, characterized in that R<sup>1</sup> is a C<sub>12</sub> to C<sub>22</sub> alkyl  
 group.

19. Composition according to either of  
 25 Claims 17 and 18, characterized in that the groups R<sup>2</sup>  
 are groups containing from 30 to 42 carbon atoms.

20. Composition according to one of the preceding claims, characterized in that the polymer represents from 0.5% to 80% of the total weight of the composition and better still from 5% to 40%.

21. Composition according to any one of the preceding claims, characterized in that the fluoro oil is a fluorosilicone compound of formula (II):



in which:

- R represents a linear or branched divalent alkyl group containing 1 to 6 carbon atoms, preferably a divalent methyl, ethyl, propyl or butyl group,

- Rf represents a fluoroalkyl radical, especially a perfluoroalkyl radical, containing 1 to 9 carbon atoms, preferably 1 to 4 carbon atoms,

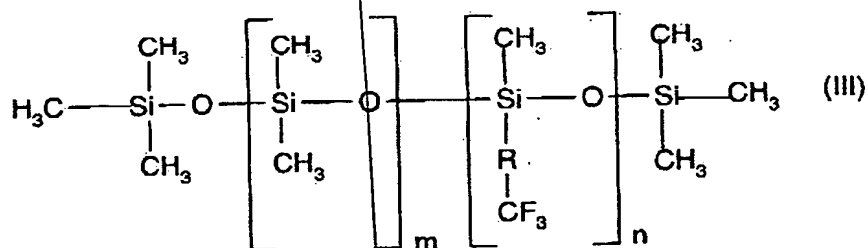
- R<sub>1</sub> represents, independently of each other, a C1-C20 alkyl radical, a hydroxyl radical or a phenyl radical,

- m is chosen from 0 to 150 and preferably from 20 to 100, and

- n is chosen from 1 to 300 and preferably from 1 to 100.

22. Composition according to Claim 21, characterized in that the groups  $R_1$  are identical and represent a methyl radical.

23. Composition according to any one of the preceding claims, characterized in that the fluoro oil is a fluorosilicone compound of formula (III) below:

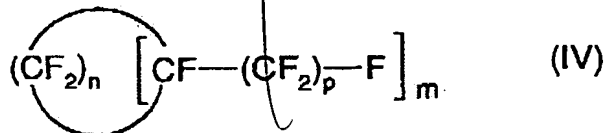


10 with

- R representing a divalent methyl, ethyl, propyl or butyl group,
- m being chosen from 0 to 80, and
- n being chosen from 1 to 30.

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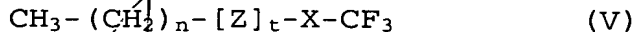
24. Composition according to any one of the preceding claims, characterized in that the fluoro oil is chosen from the perfluorocycloalkyls of formula (IV) below:



in which n is equal to 4 or 5, m is equal to 1 or 2, and p is equal to 1, 2 or 3; with the proviso that when m = 2, the groups are not necessarily alpha to each other.

5           25. Composition according to Claim 24, characterized in that the fluoro oil is chosen from perfluoromethylcyclopentane and perfluorodimethylcyclobutane.

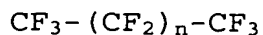
10           26. Composition according to any one of the preceding claims, characterized in that the fluoro oil is chosen from the fluoroalkyl and heterofluoroalkyl compounds corresponding to formula (V) below:



15           in which t is 0 or 1; n is 0, 1, 2 or 3; X is a linear or branched divalent perfluoroalkyl radical containing from 2 to 5 carbon atoms, and Z represents O, S or NR, R being hydrogen, a radical  $-(\text{CH}_2)_n-\text{CH}_3$  or  $-(\text{CF}_2)_m-\text{CF}_3$ , m  
20           being 2, 3, 4 or 5.

          27. Composition according to Claim 26, characterized in that the fluoro oil is chosen from methoxynonafluorobutane and ethoxynonafluorobutane.

25           28. Composition according to any one of the preceding claims, characterized in that the fluoro oil is chosen from the perfluoroalkane compounds corresponding to formula (VI) below:

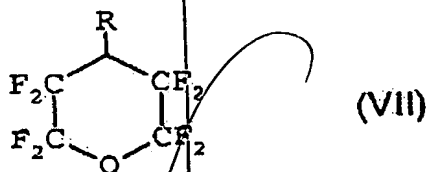


(VI)

in which n is 2 to 6.

29. Composition according to Claim 28,  
5 characterized in that the fluoro oil is chosen from  
dodecafluoropentane and tetradecafluorohexane.

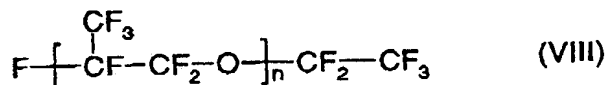
30. Composition according to any one of the  
preceding claims, characterized in that the fluoro oil  
is chosen from the perfluoromorpholine derivatives  
10 corresponding to formula (VII) below:



in which R represents a C<sub>1</sub>-C<sub>4</sub> perfluoroalkyl radical.

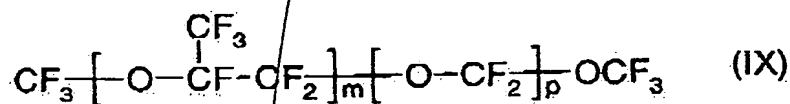
31. Composition according to Claim 30,  
15 characterized in that the fluoro oil is chosen from 4-  
trifluoromethylperfluoromorpholine and 4-pentafluoro-  
ethylperfluoromorpholine.

32. Composition according to any one of the  
20 preceding claims, characterized in that the fluoro oil  
is chosen from the perfluoropolyethers corresponding to  
formulae (VIII) and (IX) below:



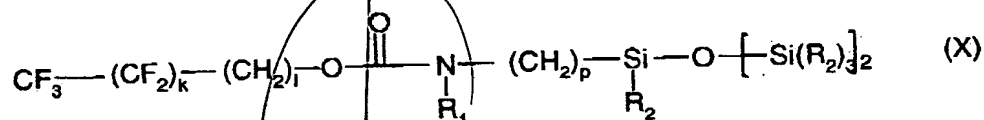


in which n is 7 to 30; and



the ratio m/p being from 20 to 40, and the molecular weight ranging from 500 to 20 000.

33. Composition according to any one of the preceding claims, characterized in that the fluoro oil is chosen from the fluorosilicone compounds corresponding to formula (X) below:



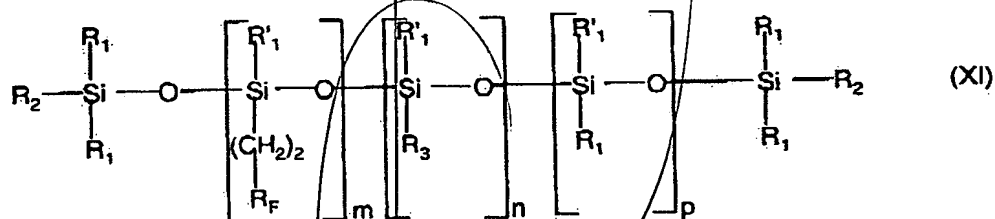
in which k is 1 to 17, l is 1 to 18, p is 1 to 6 and R<sub>1</sub> represents a hydrogen atom or a C<sub>1</sub>-C<sub>6</sub> alkyl radical; R<sub>2</sub> represents a C<sub>1</sub>-C<sub>6</sub> alkyl radical or a radical -OSi(R<sub>3</sub>)<sub>3</sub>, and R<sub>3</sub> represents a C<sub>1</sub>-C<sub>4</sub> alkyl radical.

34. Composition according to Claim 33, characterized in that the fluoro oil is chosen from:

- N-(2-F-octylethyloxycarbonyl)-3-aminopropylbis(trimethylsiloxymethyl)silane,
- N-(2-F-hexylethyloxycarbonyl)-3-aminopropylbis(trimethylsiloxymethyl)silane,

- N-(2-F-butylethyloxycarbonyl)-3-aminopropylbis(trimethylsiloxy)methylsilane,
- N-(2-F-octylethyloxycarbonyl)-3-aminopropyltris(trimethylsiloxy)silane,
- 5 - N-(2-F-hexylethyloxycarbonyl)-3-aminopropyltris(trimethylsiloxy)silane, and
- N-(2-F-butylethyloxycarbonyl)-3-aminopropyltris(trimethylsiloxy)silane.

35. Composition according to any one of the preceding claims, characterized in that the fluoro oil is chosen from the fluoroalkylsilicones corresponding to formula (XI) below:



in which  $R_1$  and  $R'_1$  independently represent a linear or branched alkyl radical containing from 1 to 6 carbon atoms, or a phenyl radical,  $R_2$  represents  $R_1$ ,  $-OH$  or  $-(CH_2)_f-R_F$ ,  $f$  being an integer ranging from 0 to 10,

20  $R_3$  represents a linear or branched alkyl radical containing from 6 to 22 carbon atoms,

$R_F$  represents a radical of formula  $-(CF_2)_q-CF_3$ ,  $q$  being an integer ranging from 0 to 10,

$m$  and  $n$  represent an integer ranging from 1 to 50, and

25  $p$  represents an integer ranging from 0 to 2 000.

36. Composition according to Claim 35, characterized in that

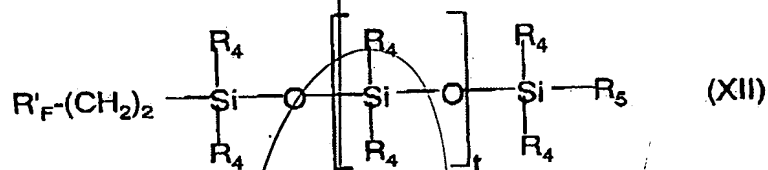
$R_1$ ,  $R'_1$  and  $R_2$  represent a methyl radical,

$R_3$  represents a linear alkyl radical containing from 6  
5 to 22 carbon atoms,

$m$  and  $n$  are integers ranging from 1 to 20, and

$q$  is an integer ranging from 0 to 3.

37. Composition according to any one of the  
preceding claims, characterized in that the fluoro oil  
10 is chosen from the fluoroalkylsilicones corresponding  
to formula (XII) below:



15 in which:

$R_4$  represents a linear or branched alkyl radical  
containing from 1 to 6 carbon atoms, or a phenyl  
radical,

$R_5$  represents a linear or branched alkyl radical  
20 containing from 6 to 22 carbon atoms, or a phenyl  
radical,

$R'_F$  represents a radical of formula  $\text{-(CF}_2\text{)}_s\text{-CF}_3$ ,  $s$  being  
an integer ranging from 0 to 15, and

$t$  represents an integer ranging from 1 to 2 000.

38. Composition according to the preceding claim, characterized in that  $R_4$  represents a methyl radical,  $R_5$  represents a linear alkyl radical containing from 6 to 22 carbon atoms and  $s$  represents an integer ranging from 1 to 13.

39. Composition according to any one of the preceding claims, characterized in that the fluoro oil is present in a content ranging from 0.1% to 50% by weight, relative to the total weight of the composition, preferably ranging from 1% to 30% by weight and better still from 3% to 15% by weight.

40. Composition according to one of the preceding claims, characterized in that it comprises an additional oil, other than the said fluoro oil.

41. Composition according to one of the preceding claims, characterized in that it also contains at least one additional volatile oil.

42. Composition according to Claim 41, characterized in that the additional volatile oil is chosen from volatile hydrocarbon-based oils containing from 8 to 16 carbon atoms, and mixtures thereof.

43. Composition according to Claim 41 or 42, characterized in that the additional volatile oil is chosen from branched  $C_8-C_{16}$  alkanes and branched  $C_8-C_{16}$  esters, and mixtures thereof.

44. Composition according to one of Claims 39 to 42, characterized in that the the additional

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volatile oil is chosen from C<sub>8</sub>-C<sub>16</sub> isoparaffins and isododecane, and mixtures thereof.

45. Composition according to one of the preceding claims, characterized in that the liquid  
5 fatty phase also contains at least one additional non-volatile oil, other than the said fluoro oil.

46. Composition according to one of the preceding claims, characterized in that the liquid  
10 fatty phase also contains at least one additional non-volatile oil chosen from hydrocarbon-based oils of mineral, plant or synthetic origin, synthetic esters or ethers and silicone oils, and mixtures thereof.

47. Composition according to one of Claims  
15 40 to 46, characterized in that the additional volatile or non-volatile oil represents a content by mass of from 5% to 97.5%, preferably from 10% to 75% and better still from 15% to 45%.

48. Composition according to one of the preceding claims, characterized in that the liquid  
20 fatty phase contains at least 30% of apolar oil relative to the total weight of the liquid fatty phase, and better still from 50% to 100% relative to the total weight of the liquid fatty phase.

49. Composition according to one of the  
25 preceding claims, characterized in that the liquid fatty phase represents from 5% to 99% of the total weight of the composition, and better still from 20% to 75%.

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50. Composition according to one of the preceding claims, characterized in that it constitutes a care composition and/or treatment composition and/or make-up composition for keratin materials.

5 51. Composition according to one of the preceding claims, characterized in that it also contains at least one dyestuff.

52. Composition according to Claim 51, characterized in that the dyestuff is chosen from  
10 lipophilic dyes, hydrophilic dyes, pigments and naces, and mixtures thereof.

53. Composition according to Claim 51 or 52, characterized in that the dyestuff is present in a proportion of from 0.01% to 50% relative to the total  
15 weight of the composition, and preferably from 5% to 30%.

54. Composition according to one of the preceding claims, characterized in that it contains at least one additive chosen from water, antioxidants,  
20 essential oils, preserving agents, fragrances, fillers, waxes, fatty compounds that are pasty at room temperature, neutralizers, polymers that are liposoluble or dispersible in the medium, cosmetic or dermatological active agents and dispersants, and  
25 mixtures thereof.

55. Composition according to one of the preceding claims, characterized in that it contains at least one polymer that is liposoluble or dispersible in

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the medium, chosen from vinylpyrrolidone copolymers and C<sub>3</sub> to C<sub>22</sub> alkene copolymers, and combinations thereof.

56. Composition according to one of the preceding claims, characterized in that it is in the form of a rigid gel, and especially in the form of an anhydrous stick.

57. Composition according to one of the preceding claims, characterized in that it is in the form of a mascara, an eyeliner, a foundation, a lipstick, a blusher, a deodorant product, a make-up-removing product, a body make-up product, an eye shadow, a face powder, a concealer product, a shampoo, a conditioner, an antisen product, a bodycare product, a facial care product or a nail varnish.

58. Composition according to one of the preceding claims, characterized in that it is in the form of a stick with a hardness ranging from 30 to 300 gf.

59. Lipstick composition in stick form containing at least one liquid continuous fatty phase comprising at least one fluoro oil, the liquid fatty phase being structured with at least one non-waxy polymer giving the composition the appearance of an elastic deformable solid with a hardness ranging from 30 to 300 gf, in the absence of wax.

60. Composition according to Claim 59, characterized in that it also comprises at least one additive chosen from fatty compounds that are pasty at

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room temperature, liposoluble polymers, and mixtures thereof.

61. Cosmetic process for caring for, making up or treating human keratin materials, comprising the application to the keratin materials of a cosmetic composition in accordance with one of the preceding claims.

62. Use of a liquid fatty phase containing a fluoro oil and of at least one polymer with a weight-average molecular mass of less than or equal to 1 000 000, comprising a) a polymer skeleton containing hydrocarbon-based repeating units containing at least one hetero atom, and b) optionally at least one pendent fatty chain and/or at least one terminal fatty chain that are optionally functionalized, containing from 6 to 120 carbon atoms and being linked to these hydrocarbon-based units, in a cosmetic composition or for the manufacture of a physiologically acceptable composition, in order to reduce the transfer and/or deposit of traces of a film of the said composition, applied to the keratin materials, onto a support placed in contact with the said film and/or to improve the staying power of the said film and/or to obtain a non-sticky film.

63. Use according to the preceding claim, characterized in that the polymer is a polyamide comprising end groups containing an ester group

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comprising a hydrocarbon-based chain containing from 10 to 42 carbon atoms.

64. Composition according to one of Claims 1 to 59, characterized in that it is in "two-product" form.

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